

Analyzing the Short-term solvency using Liquidity position of selected Cement companies**C.Vadivel**

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ABSTRACT

Cement being an important medium for construction, its demand is highly correlated with the overall performance of a country and the state of literacy rate. So, a study on cement industry is quite inevitable. Studies on working capital management acquire great significance in the context of growth in the developing economies. When working capital is invested appropriately, it leads to better financial performance. Therefore, the study of working capital management is considered an important job of an industry. Evidently, the present study on working capital management of the select cement industry would be of much interest, as it will bring out how effectively the working capital is employed. It also helps to identify those variables that are responsible for better management of working capital of the cement industry. The study has aimed at measures the Liquidity analysis of the selected cement companies in India. The study has used stratified sampling techniques and two companies were selected. The data were collected from the respective companies annul financial statement during from 2005-06 to 2014-15. Several tools were developed to diagnose the financial strength of the company based on the Financial Statements. The selected cement companies face the problems such as inadequate short-term liquidity, improper utilization of working capital, inefficiency of cash management, delay in payables, and poor profitability. The researcher has suggested suitable measures to improve the efficiency of the working capital management of the select cement companies.

Keywords: Cement Industry, Financial performance, Liquidity, Profitability.

INTRODUCTION

Financial performance of any organization is usually judged in terms of its liquidity, long-term solvency, activity and profitability. Liquidity refers to the ability of a concern to meet its current obligations as and when they become due. A firm should ensure that it does not suffer from lack of liquidity, and also that it should not possess too much liquidity as it hampers the profitability. The short-term obligations are met by realizing funds from current, floating or circulating assets. The current assets should either be liquid or near liquidity.

STATEMENT OF THE PROBLEM

The cement industry is facing several problems. Growth of cement industry in India has been constrained due to high cost of production caused by inadequate availability and high cost of raw materials, power cost, etc. The sharp rise of prices created a cement crisis (1968) in the country. Since then, the cement industry has been engulfed in a crisis due to variety of reasons, and has led a sub-optimal use of installed capacity. The financial performance of the cement industry has been highly unsatisfactory despite numerous facilities and fiscal concessions being provided to them. In this context, the researcher has undertaken this study to have an insight into the working capital management of the cement industry in Tamil Nadu

NEED FOR THE STUDY

Cement being an important medium for construction, its demand is highly correlated with the overall performance of a country and the state of literacy rate. So, a study on cement industry is quite inevitable. Studies on working capital management acquire great significance in the context of growth in the developing economies. These economies are characterized by acute scarcity of resources, particularly capital and must use the available resources as best as they can. Also, generation of surplus resources which play a pivotal role in their growth depends crucially on the efficiency with which resources are used. When working capital is invested appropriately, it leads to better financial performance. Therefore, the study of working capital management is considered an important job of an industry. Evidently, the present study on working capital management of the select cement industry would be of much interest, as it will bring out how effectively the working capital is employed. It also helps to identify those variables that are responsible for better management of working capital of the cement industry.

OBJECTIVES OF THE STUDY

The aim of the study is to make an objective assessment of the working capital management of the select cement industries in Tamil Nadu. The following is the main objective of the study:

To analyze the liquidity position of select cement companies and thereby analyze the short-term solvency.

TESTING OF HYPOTHESIS

The study is based on the formulation of the following null hypotheses. The validity of them has been tested with the available data through appropriate analysis.

H₁: There is no significant difference in the liquidity ratios among the select cement companies in Tamil Nadu.

SCOPE OF THE STUDY

This study has been undertaken to assess the working capital management of the select cement companies. The present study is confined to only two cement companies, namely, India Cements

Limited and Chettinad Cement. The study focuses its attention only on one vulnerable key areas of working capital management, namely, liquidity

PERIOD OF THE STUDY

The study covers a period of 10 years starting from 2005-06 to 2014-15. The period is considered sufficient to reveal the short and long-term fluctuations.

METHODOLOGY

The study is empirical in nature with a focus on assessing the working capital management of the cement industry from the point of view of liquidity and activity. As on 31.03.2015, there are 8 cement industries in operation in Tamil Nadu, of which there are only two large scale cement industry namely, India Cements Limited, and Chettinad Cement. The two large scale cement industry were selected only for the present study.

The study encompasses secondary data only. The secondary data were extracted from the published annual reports of the study units for a period of ten years. These reports are the financial statements, books of accounts, annual reports, and circulars. Literature relating to the study was gathered from published reports, journals, magazines, books, etc. In particular, the researcher has collected the secondary data from the Indian Institute of Management, Bangalore, Documentation Centre, Indian Council of Social Science Research, New Delhi, and School of Economics, Delhi University, New Delhi. The collected data were analyzed and interpreted as intelligibly as possible to highlight the divergent activities related to the working capital management of the select cement industry.

FRAMEWORK OF ANALYSIS

The data have been analyzed with the help of different accounting and statistical techniques such as ratios, student t-test, co-efficient of variation and inter-correlation analysis. The ratio analysis has been employed to find out the liquidity and activity positions of the cement industry. T test has been employed to find if there is any significant difference in the liquidity and activity positions among the select cement companies.

The co-efficient of variation has been employed to test the consistency of the liquidity and activity ratios of the cement companies. The inter-correlation analysis has been employed to find out the interrelationship among the liquidity ratios of the cement companies over the study period.

LIMITATIONS OF THE STUDY

As stated earlier, a period of ten years from 2005-06 to 2014-15 has been selected for this study. Because of the constraints of time, two cement companies alone have been selected and studied. Hence, the conclusion drawn is specific and cannot be universalized. This study is also restricted only to the working capital management aspects of these select cement companies.

REVIEW OF LITERATURE

Ghosh and Maji (2004) in their study measured that the efficiency of working capital management practice and ability to improve their efficiency up to the industrial average in 20 large cement companies operating in India. The period of the study was the ten years from 1992-93 to 2001-02. They reported that the Indian cement industry did not perform remarkably well during this period. Some of the sample firms had successfully improved their efficiency during these years.

Das (2006) examined the Dividend practices in selected Cement Industries Ltd during 85 -86 to 2004 -2005. He found that the company followed conservative dividend policy during the study period. There was significant increase in profitability due to earnings per share and capital employed current ratio was in decaling trend.

Kulansizoglu (2007) concluded that the cement industry has gradually become more competitive over time since the sign of parameter of time trend in their supply equation is negative and the parameter itself, although small in absolute value, is statistically significant. The competition Authority dummy turned out to be statistically in-significant even when they assume that it might have a logged impact. These results are contrary to priority expectations and show that the introduction of competition policy has not made the cement industry more competitive despite all the investigations and monetary penalties.

Burange and Yamini (2008) in their study computed the Annual Compound Growth Rates (ACGR) as per semi log method for 37 years from 1970-71 to 2006-07. According to the study the performance of primary indicators in the Indian cement industry has been very impressive during the period 1970-71 to 2006-07.

Ramachandran and Janakiraman (2009) analyzed the relationship between working capital management efficiency and earnings before interest and tax of the paper industry in India. The study revealed that cash conversion cycle and inventory days had negative correlation with earnings before interest and tax. While accounts payable days and accounts receivable days related positively with earnings before interest and tax.

Aruna Saini and Dhan Saini (2010) conducted an important study on analysis of liquidity management and tradeoff between liquidity, risk and profitability. It was an empirical study. The period of the study was from 1999-00 to 2008-09. Their purposes of the study were to measure and evaluate the efficiency of liquidity management by using ratio analysis and to assess the tradeoff between profitability and risk of Infosys Technologies Limited. They suggested investment in current assets should be controlled through skillful liquidity management.

Singh (2011) analyzed working capital management efficiency of the firms from cement industry in India. They found that day's payable outstanding was negatively related to profitability. Correlation coefficient for sales to total asset ratio was 0.427 and which means that sales to total asset ratio is positively related to profitability at 1% significant level.

Pasupathi (2012) carried out a study on Operational Adequacy of Working Capital Management of Selected Indian Automobile Industry - A Bivariate Discriminant Analysis where it was concluded that in the years 1992-93 to 2006-07 Ashok Leyland Ltd in commercial vehicles sector, Mahindra and Mahindra Ltd in passenger cars and multi-utility vehicles sector and Bajaj Auto Ltd in two and three wheelers sector units maintained adequate size of the working capital throughout the period under study.

DATA PRESENTATION

Table 1: Ratios of the Cement Companies

Year	CURRENT RATIO		QUICK RATIO		SUPER QUICK RATIO		DEFENSIVE INTERNAL RATIO		INVENTORY TO WORKING CAPITAL RATIOS	
	ICL	CC	ICL	CC	ICL	CC	ICL	CC	ICL	CC
2005-06	2.68	1.4	1.63	1.01	0.11	0.17	107.6	69.29	0.62	0.96
2006-07	2	1.48	1.3	0.85	0.25	0.16	102.5	72.22	0.7	1.29
2007-08	2.29	1.57	1.54	1.2	0.32	0.3	133.93	98.49	0.58	0.65
2008-09	1.67	1.8	1.05	1.44	0.09	0.58	97.35	105.15	0.92	0.44
2009-10	1.56	1.44	1.03	1.03	0.08	0.45	80.15	103.46	0.94	0.93
2010-11	1.66	1.41	1.13	1.02	0.01	0.48	82.85	104.85	0.8	0.94
2011-12	1.85	1.41	1.23	1.01	0.1	0.48	83.41	104.62	0.73	0.95
2012-13	1.42	1.53	0.82	1.14	0.07	0.51	67.01	112.84	1.43	0.73
2013-14	1.27	1.41	0.79	0.99	0.07	0.48	59.9	114.39	1.8	1.02
2014-15	1.64	1.79	1.03	1.21	0.05	0.54	78.74	90.75	0.96	0.73
Mean Score	1.8	1.52	1.16	1.09	0.12	0.42	89.34	97.61	0.95	0.86

Table 2: Comparison Between Current Ratios of the Cement Companies

	Company	N	Mean	SD	Calculated Value	t	DF	Significance
Current Ratios	ICL	10	1.8	0.42	1.972		18	Not significant
	CC	10	1.52	0.15				
Quick Ratios	ICL	10	1.15	0.28	0.64		18	Not significant
	CC	10	1.09	0.16				
Super Quick Ratios	ICL	10	0.11	0.1	5.323		18	Significant
	CC	10	0.42	0.15				

Defensive Internal Ratios	ICL	10	89.34	21.6	0.98	18	Not significant
	CC	10	97.61	15.64			
Inventories to Working Capital Ratios	ICL	10	0.95	0.38	0.59	18	Not Significant
	CC	10	0.86	0.23			

Table 3: Co-efficient of Variation of the Ratios

RATIOS	Cement Company	Mean	Standard Deviation	Coefficient of Variation
Current Ratios	ICL	1.8	0.42	23.39
	CC	1.52	0.15	10.08
Quick Ratios	ICL	1.16	0.28	23.95
	CC	1.09	0.16	14.99
Super Quick Ratios	ICL	0.12	0.1	82.82
	CC	0.42	0.15	36.28
Defensive Internal Ratios	ICL	89.34	21.6	24.17
	CC	97.61	15.64	16.02
Inventories to Working Capital Ratios	ICL	0.95	0.38	40.6
	CC	0.86	0.23	27.12

Table 4: Inter-Correlations among the Liquidity Ratios

Cement Companies	<i>Liquidity Ratios</i>	Current Ratio	Liquidity Ratio	Super Quick Ratio	Defensive Internal Ratio	Inventory to Working Capital Ratio
ICL	Current ratio	1.000	0.978	0.551	0.831	-0.780
	Liquidity ratio		1.000	0.605	0.880	-0.852

	Super quick ratio			1.000	0.792	-0.444
	Defensive internal ratio				1.000	-0.796
	Inventory to working capital ratio					1.000
CC	Current ratio	1.000	0.831	0.435	0.046	-0.728
	Liquidity ratio		1.000	0.575	0.345	-0.976
	Super quick ratio			1.000	0.820	-0.580
	Defensive internal ratio				1.000	-0.421
	Inventory to working capital ratio					1.000

RESULTS AND DISCUSSION

Student t-Test

The calculated t value of the current ratios of the Cement Companies is (1.972) less than the table value (2.101) at 5 per cent level of significance. This indicates that there is no significant difference between the current ratio of ICL and CC. Therefore, the null hypothesis (H_1) is accepted. The mean of the current ratio of the ICL and CC over the study period is 1.80 and 1.52 respectively. It reveals the poor liquidity position of the Cement Companies and they are not able to pay their current liabilities in time without facing difficulties.

The calculated t value of the quick ratios of the Cement companies is (0.640) less than the table value (2.101) at 5 per cent level of significance. This means that no significant difference is found between the quick ratio of the ICL and CC. Therefore, the null hypothesis (H_1) is accepted. The average quick ratio of the ICL and CC over the study period is 1.16 and 1.09 respectively. It implies the highest liquidity position of the select Cement Companies and they were unable to pay their quick liabilities in time without facing difficulties.

The calculated t value of the super quick ratio is (5.323) greater than the table value (2.101) at 5 per cent level of significance. It indicates that there is a significant difference between the super quick ratio of the ICL and CC. Therefore, the null hypothesis (H_1) is rejected. The average super quick ratios of the ICL and CC are 0.12 and 0.42 respectively. It reveals that there exists unsatisfactory position in the super quick ratio of ICL and it is unable to pay its quick liabilities in time without facing difficulties.

The calculated t value of the defensive internal ratio is (0.980) less than the table value (2.101) at 5 per cent level of significance. It indicates that there is no significant difference between the defensive internal ratio of the ICL and CC. Therefore, the null hypothesis (H_1) is accepted. The average defensive internal ratios of the ICL and CC are 89.34 and 97.61 respectively. It reveals that there exists satisfactory position in the defensive internal ratio of select Cement Companies in Tamil Nadu.

The calculated t value of the inventory to working capital ratio (0.590) is less than the table value (2.101) at 5 per cent level of significance. It indicates that there is no significant difference between the inventory to working capital ratios of ICL and CC. Therefore, the null hypothesis (H_1) is accepted. The average inventory to working capital ratios of the ICL and CC are 0.95 and 0.86 respectively. It reveals that there exists unsatisfactory position in the inventory to working capital ratio of the select Cement Companies during the study period.

Coefficient of Variation

In order to test the consistency in the current ratio of the Cement Companies, co-efficient of variation was employed. The variation in the current ratio was found to be high in ICL (23.39%) followed by CC (10.08%) during the study period. The mean of the current ratio of the select Cement Companies shows the unsatisfactory position during the study period.

It is obvious from table 3 that the variation in the quick ratio was found to be high in ICL (23.95%) with a standard deviation of 0.28, and the variation in the CC was 14.99% with a standard deviation of 0.16. Therefore, it is inferred that there is a consistency in the quick ratio of the CC over the study period.

The variation in the super quick ratio is found to be high in ICL (82.82%) followed by CC (36.28%). The average of the super quick ratio in CC is satisfactory during the study period.

The variation in the defensive internal ratio is found to be high in ICL (24.17%) followed by CC (16.02%). The average of the defensive internal ratio in CC is satisfactory during the study period.

The variation in the inventory to working capital ratio is found to be high in ICL (40.60%) followed by CC (27.12%). The average of the inventory to working capital ratio of the select Cement Companies is not satisfactory during the study period.

Inter-Correlation

From table 4, it is inferred that there has been a close positive correlation between current ratio and liquidity ratio in ICL (0.978), followed by CC (0.831). There is a moderate positive correlation between the liquidity ratio and super quick ratio and defensive internal ratio in ICL and CC. There is a high degree of co-efficient of correlation between super quick ratio and defensive internal ratio in ICL and CC. The inventory to working capital ratio of the ICL and CC had negative correlation coefficients with other liquidity ratios.

CONCLUSION

In this research paper, an attempt has been made to examine the ability of the Cement Companies to meet their short-term obligations. There is no significant difference in the current ratio, quick ratio, defensive internal ratio and inventory to working capital ratio of the select Cement Companies during the study period. The current ratio of the Cement Companies shows poor liquidity position and they are not able to pay their current liabilities in time without facing difficulties, whereas the quick ratio of the mills shows satisfactory position. There exists unsatisfactory position in the super quick ratio of ICL. The variation in the current ratio, quick ratio, super quick ratio, defensive internal ratio and inventory to working capital ratio is found to be high in ICL. There has been a close positive correlation between current ratio and liquidity ratio in ICL. The inventory to working capital ratio of the ICL and CC had negative correlation coefficients with other liquidity ratios.

BIBLIOGRAPHY

ArunaSaini and DhanSaini (2010), Analysis of Liquidity Management and Trade –off between Liquidity, Risk and Profitability: An Empirical Study, Journal of Accounting and Finance, Vol. 24, No. 2, pp. 29-41

Burange and Yamini (2008), Performance of Indian cement industry, The competitive landscape, pp 11-20.

Das (2006) Dividend practices in selected Cement Industries- an empirical analysis” the management accountancy Vol. 41, No. 4, pp 288 – 293.

Ghosh and Maji (2004). Working Capital Management Efficiency: A Study on the Indian Cement Industry, The Management Accountant, Vol.37, No. 5, pp.363-372.

Kulaksizoglu (2007), Measuring the Effectiveness of Competition Policy: Evidence from the Turkish Cement Industry, MPRA Paper No. 35715.

Pasupathi (Feb 2012), Operational Adequacy of Working Capital Management of Selected Indian Automobile Industry - A Bivariate Discriminant Analysis, International Journal of Research in Social Sciences, Vol. I, Issue 1, U.S.A, pp. 139-151.

Ramachandran and Janakiraman (2009), The Relationship between Working Capital Management Efficiency and EBIT, Managing Global Transitions, 7(1), 61-74.

Singh (2011), Net Working Capital Level and Return on Capital Employed In Firms of Cement Industries in India, VSRD International Journal of Business & Management Research, Vol. 1 (4).